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INDOOR AIR MANAGEMENT SOLUTIONS

PurAero

DID YOU KNOW...?

- Indoor air is found to be up to 40 times more polluted than outdoor air.
- Most people spend 80-90% of their time indoors – at work and at home.
- Fifty percent of all illness is caused or aggravated by indoor air pollution.

Indoor Air Quality

KILL AIRBORNE MOLD AND BACTERIA WITH UV AIR TREATMENT

There's no doubt about it...the health of American workers is being affected by indoor air quality (IAQ) in the workplace. In recent years, indoor air quality has become a public concern due in large part to a trend in identifying "sick" buildings, or Sick Building Syndrome (SBS) – a facility experiencing extremely poor indoor air quality due to mold and bacterial growth.

SBS is on the rise primarily due to "tighter" building construction. In an effort to maximize heating and cooling efficiencies, builders have sealed their facilities tighter, thus restricting the flow of "fresh" air.

Poor indoor air quality can be directly responsible for high employee costs — illness and low productivity — as well as high energy costs, when the growth of mold and bacteria affects the performance of air handling equipment.

Identifying Poor Indoor Air Quality

One obvious sign of IAQ problems is a "locker room" or "dirty socks" smell in a facility. The foul odors are caused by molds and fungi that metabolize and emit volatile organic compounds (VOCs) and toxins. Eventually, the VOC components and breakdown products will trigger allergic reactions and respiratory illnesses when inhaled.

Bacteria and mold spores usually enter a building through HVAC air intakes, but they are also carried in by people, equipment and supplies. In addition, humidity and moisture promote bacterial growth. Air conditioner cooling coils and drain pans serve as an ideal breeding ground for toxic mold. Over time, these contaminants can cause allergies, asthmatic conditions, eye irritation, headaches and flu-like symptoms.

In addition to the health implications, if mold and bacteria find their way behind your facility's walls and are left untreated, the clean up and remediation costs could be astronomical. A sick building could shut down your operations for weeks or possibly months.

The Solution to Poor Indoor Air Quality: Ultraviolet Air Treatment

Fortunately, a technology called Ultraviolet Air Treatment is the solution to control mold spores and bacteria that flow through HVAC systems.

How it works

Mounted in the ductwork of your heating and cooling system, the air treatment system continuously emits ultraviolet (UV-C) energy that kills a high percentage of airborne bacteria passing by the light. A UV Air Treatment System will control mold, bacteria, viruses, and fungi – along with their associated foul odors. The ultraviolet light disinfects the air to render any pathogens inactive. The amount of bacteria killed will depend on the type of air treatment system selected and how often your HVAC system's fans operate. A UV Air Treatment System is the most effective way to reduce airborne bacteria and the health risks they represent. It is an important component to any air conditioning system.

Why take the risk?

UV Air Treatment is an efficient, reliable and low-cost solution to improving indoor air quality and your employees' health by killing airborne mold spores and bacteria that flow through your heating and cooling system.

Consulting Service

Let Nicor customize an Ultraviolet Air Treatment System that's right for your facility. UV Air Treatment is just one of the air remediation products in Nicor's family of PurAero Indoor Air Management Solutions. Our specialists can provide solutions for any air remediation need in commercial or industrial environments. For more information, call Nicor at 630 388-2596 or visit our website at www.nicorgas.com/puraero.

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A Family of Environmental Products

GREEN OX

LIQUID WASTE VOLUME REDUCTION
- Conventional Evaporation
- Flash Evaporation

AIR REMEDIATION
- Gas Turbine Oxidizer (GTO)

ENVIRONMENTAL CONSULTING
- In-house Process Specialists
- Alliance with Environmental Experts

ENVIRONMENT

NICOR SOLVES PROCESS WASTEWATER AND VOC CONCERNS THROUGH THE STRENGTH OF GREEN OX

Process wastewater disposal and controlling volatile organic compounds (VOCs) are environmental issues for many industrial facilities. Both issues are financial and legal cradle-to-grave challenges - as local and federal government agencies tighten environmental regulations. The energy experts at Nicor have developed the Green Ox family of environmental products to address these challenges.

Conventional Evaporation

Conventional evaporation reduces the volume of process wastewater from 90 to 95 percent, prior to haulage to disposal facilities. The wastewater is placed in reservoirs with capacities of 50 to 200 gallons and heated to 212°F. The heating boils the water off, reducing it to a "sludge" for disposal.

Benefits of Conventional Evaporation:

- Reduced hauling costs (less material to haul)
- Low capital investment and low operating costs
- Processes multiple waste streams simultaneously
- Simple to install, operate (pennies per gallon) and maintain
- Keeps wastewater disposal in-house

Flash Evaporation

Flash evaporation completely eliminates the liquid portion of the wastewater, reducing it to a dry ash. This is done by passing the wastewater through a multi-pass shell and tube heat exchanger. Then the liquid is atomized and sprayed directly into a natural gas flame heated between 1250° F and 1400° F. Flash evaporators can dispose of 30 to 150 gallons of wastewater and waste oil per hour, and destroy 98 percent of volatile organic compounds (VOCs) within the ceramic combustion chamber, which eliminates air pollution.

Benefits of Flash Evaporation:

- Low maintenance and operating costs
- Reduction of water-based stream and contaminants by 100 percent

Gas Turbine Oxidizers (GTOs)

Volatile Organic Compounds (VOCs) are a costly reality of production processes. They must be burned off cleanly to meet environmental standards. Thermal oxidation has been the traditional method of VOC emissions control. However, thermal oxidizers are expensive to operate and maintain. A VOC-Power Generation System using a Gas Turbine Oxidizer (GTO) can control VOC emissions and provide an attractive rate of return, since it generates electricity as a by-product.

Environmental Consulting

Nicor can provide you with customized consulting services for any air and water remediation need in an industrial or manufacturing environment. Our in-house process specialists and alliance with environmental experts will help you develop a course of action to meet your IEPA and EPA requirements.

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Gas Turbine Oxidizers (GTOs)

GREEN OX

- Thermal destruction of volatile organic compounds (VOCs)
- On-site production of electricity
- Heat recovery
- Pollution control

NICOR SOLVES VOC CONCERNS THROUGH THE STRENGTH OF GREEN OX

Controlling volatile organic compounds (VOCs) is a challenge financially and legally to many industries as local and federal government agencies tighten environmental regulations. The energy experts at Nicor have developed the Green Ox family of environmental products to address these challenges.

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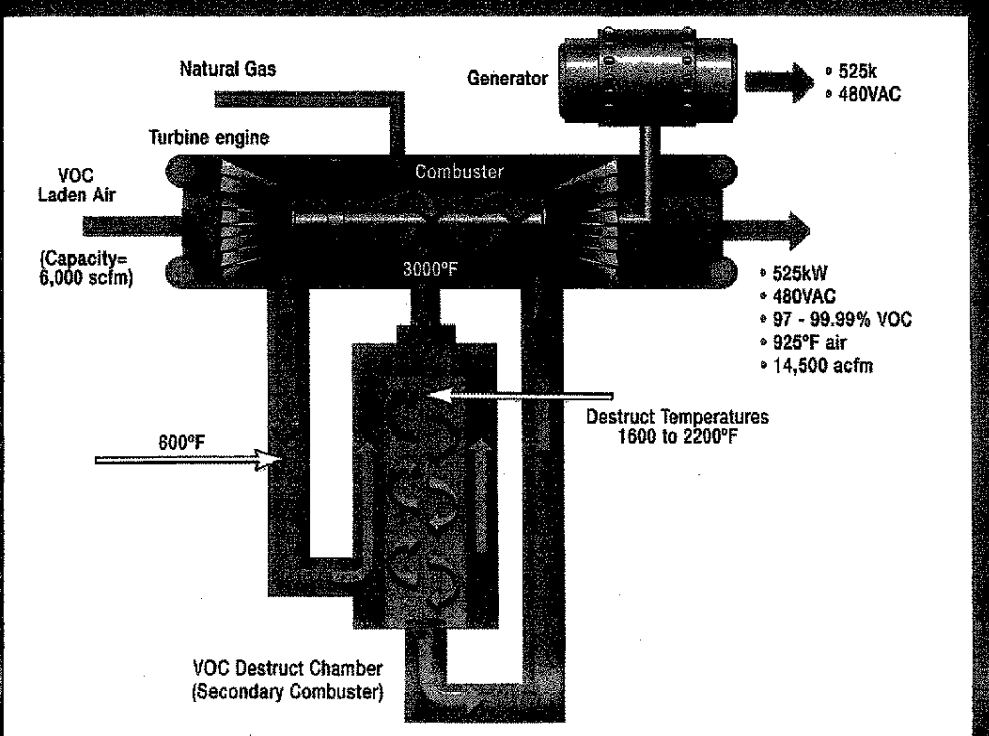

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Flash Evaporation

GREEN OX

- Reduce waste hauling costs
- Eliminate cradle-to-grave liabilities through on-site remediation
- Destroy 98%+ of all VOCs
- Can handle multiple waste streams, including those with high solvent or oil levels
- Low maintenance and manpower requirements

NICOR SOLVES PROCESS WASTEWATER AND VOC CONCERNS THROUGH THE STRENGTH OF GREEN OX

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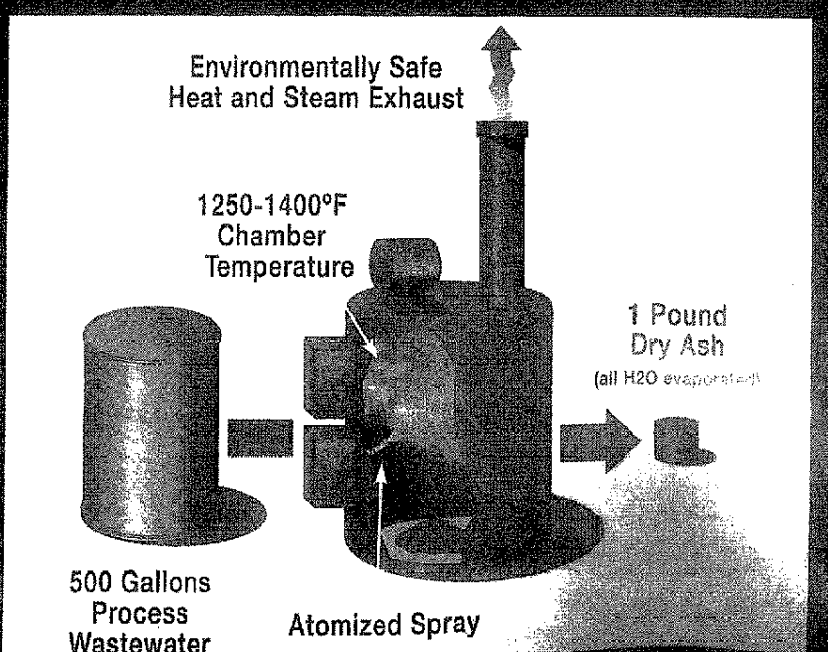

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Conventional Evaporation

GREEN OX

- Reduce waste hauling costs (less material to haul)
- Low capital investment and low operating costs
- Processes multiple waste streams simultaneously
- Simple to install, operate (pennies per gallon) and maintain
- Keeps wastewater disposal in-house

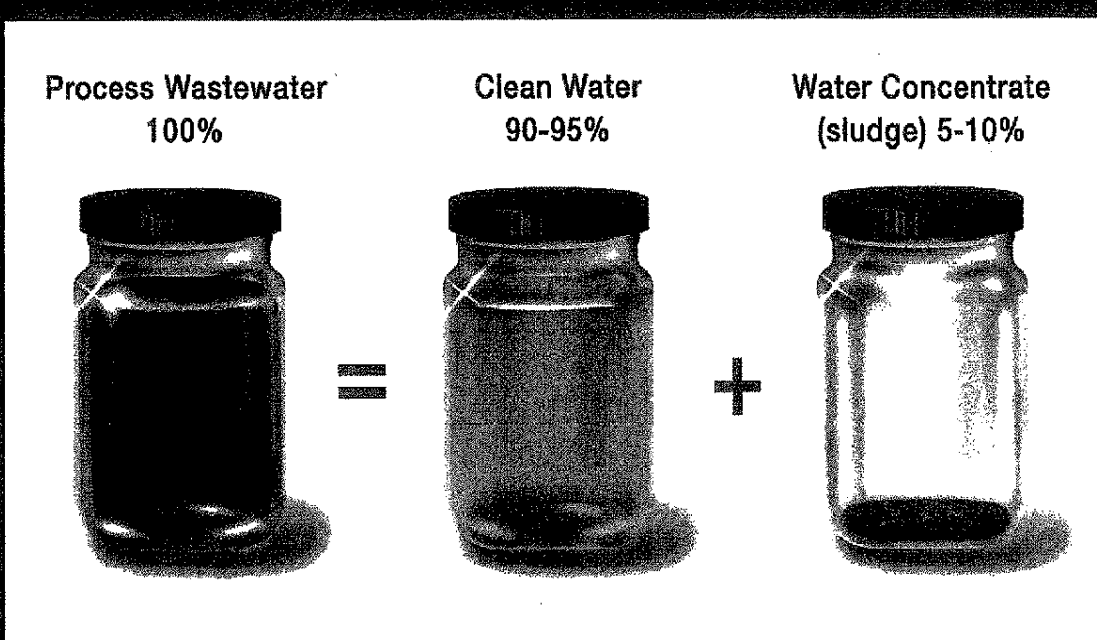
ENVIRONMENT

NICOR SOLVES PROCESS WASTEWATER CONCERNS THROUGH THE STRENGTH OF GREEN OX

Process wastewater disposal is a challenge financially and legally to many industries as local and federal government agencies tighten environmental regulations. The energy experts at Nicor have developed the Green Ox family of environmental products to address these challenges.

Conventional Evaporation

As illustrated below, conventional evaporation reduces the volume of process wastewater from 90 to 95 percent, prior to haulage to disposal facilities. The wastewater is placed in reservoirs with capacities of 50 to 200 gallons and heated to 212°F. The heating boils the water off, reducing it to a "sludge" for disposal.



Conventional evaporation efficiently and economically evaporates the water portion of process wastewater and completely eliminates your sewer discharge and accountability concerns. For a more detailed look at the conventional evaporation process, please see the reverse side of this information sheet.

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Aurora, IL 60507-0190

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Internet www.nicor.com

February 10, 2004

Dear Customer:

If you are considering new projects that may affect natural gas loads, I encourage you to contact me during the early planning stages. As your Nicor Account Executive, it is important that I am kept informed for a couple of reasons. First, your project may impact the Nicor Gas system and revisions may be necessary. Secondly, and more importantly, knowing about your plans assists me in evaluating your energy needs - giving me the ability to offer you the best options to meet those needs.

In the ever-changing energy marketplace, making solid, cost-effective decisions is becoming a greater challenge – and Nicor can help. Our staff of technical experts will provide you with information on the latest technologies and prepare energy studies for equipment you are considering purchasing.

I also would like to encourage you to sign up for Nicor's free online newsletter called "Positive Energy". This electronic newsletter examines energy issues important to your business. It also includes information to help you lower costs, improve efficiencies and increase sales. If you would like to subscribe to the newsletter, please e-mail us at request@questline.com. You can see a sample newsletter at www.nicorgas.com/commercial and click on "Customer News."

You can contact me with any questions or comments you may have at (630) 629-2500, ext. 344 (or via email at abarrow@nicor.com). I look forward to hearing from you.

Sincerely,

Andrew Barrowman
Nicor Account Executive